

## Once Upon a Hungarian Oceanography on the Adriatic

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### Abstract

The aim of this article is, to acquaint you with a forgotten story of a country's early oceanography activity, which later lost its sea, and 2/3 area of its ground, but never lost the respect to the oceans life. During the time of the Austro-Hungarian Monarchy (1867-1918) the oceanography have been developed in a short time in the Adriatic-Mediterranean region, so there was need for stations to run scientific researches, and to have base stations for the expeditions. The Hungarian scientists always had been among the firsts from the beginning, but they could get own station only in 1905 at Fiume. Before the breaking out of the WW-I they were able to run a lot of researches, and two famous Adriatic expeditions.

### Introduction

The first more detailed zoological study about the Adriatic eastern coast may have been published in 1792 [1]. The first researches on the Adriatic region in the first part 18<sup>th</sup> century were run by the Natural History Museum of Trieste. In the middle of the century, there were two major memorable possibilities for the Hungarian scientists: between 1857-1859 the round the world expedition on the Frigate "Novara", which was the first among the modern oceanography investigations, and between 1872-1874 the Austro Hungarian North-Pole expedition, when the "Franz Josef land" was discovered. The first detailed book on the Adriatic algae was published in 1863 [2].

In 1872 Anton Dohm founded the very first oceanography institute in Naples, where the Hungarian Geza Entz Sen. worked sometimes from 1883, and published his basic study in 1884 about the Gulf of Naples. One of his best friends, Salvatore Lo Bianco later had big role to base later the Hungarian oceanography [3].

### Forming and Operation of the Hungarian Station

Owing to Professor Claus of Vienna, and Professor Schulze of Graz works in 1875 the Marine Biological Station of Trieste was founded. In the 1870-80 years, on the Adriatic mostly biological detailed researches were run, which by the austrians were done mostly on the "Hertha" yacht, by the Hungarians on the "Deli", "Nautilus", and "Pelagosa" vessels.

According to historical reminiscences then till the regular using of the Trieste station, and getting new research boats, the "Argo", and the "Adria" there was longer calm period. The first publications after this period were published around the century border [4,5].

For supply the Berlin University with biological research materials in 1891, the Zoological Station at Rovinj of Berlin Aquarium was founded. That time got more overseas publicity to the Adriatic, and Naples institutions [6].

Because of having either sea, or fishery, with problems, it came up a real need from the Hungarian side of the Monarchy, to base an own station, but it was debated, not to set up it directly in Fiume, rather at Cirkvenica, Porto-Ré, Martinschizza [7,8].

Due to mostly financial causes, finally the station was founded in 1905, under jurisdiction of the Maritime Authority in Fiume, as Fishing Biological Station, under directorate of the famous Viktor Garády Gauss, later teacher of the Naval Academy. Among other important things, its duty was to supply the Hungarian research institutions with marine materials (Figure 1).

Owing to the protectorate Maritime Authority, the station immediately received a steam towing vessel, the "Klotild", which was exceptionally fit to carry out their duties (Figure 2) [9].

In some years, with the beginning of the regular deep-sea, and the season scheduled researches around 1910 a new chapter begun on the Adriatic. On Pentecost of 1910, in Venice, there was an "International Italian-Austrian Adria Research Committee" founded, which project was helped by either 4 Italian, or 4 Austrian, warships, using quite same methods, schedules, and instruments. The main warship from the Italian side was the "Ciclope", from the Austrian side was the "Najade" (Figure 3) [7,10,11].

During the research, they managed to get quite new knowledge on the spreading of phytoplanktons, as *Rhizosolenia*, *Chaetoceros*, *Ceratium*. It was also examined the periodic spread and appearance of Radiolaria, Pteropoda, Medusae, and determined the spread of eggs, and seedlings of *Sardinia pilchardus* (Walbaum 1792), and *Engraulis encrasicolus* (Linnaeus 1758). Meanwhile the Croatians also began their own researches at the areas of the Quarnero, Quarnerolo. In the research, the Croatian "Southern Slavic Academy" from Zagreb also participated, on its way.

Despite the beginning of the international researches, Hungary's direct participation delayed a lot, than Hungary got invitation to the international works, but surprisingly the international committee did not put the Quarnero into the research programme.

In 1911 was formed another interesting initiative: a big project was set up by the Prince Albert I of Monaco to run international oceanographic research on the Mediterranean Sea. Hungary was also invited, but nothing happened. As it was cleared, the invitations were sent directly to the Hungarian Government, but they may have not had personal interest to these projects. Austria had its own "Adria Verein", in Italy the project was managed by the "Comitato talassografico" so

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Figure 1: The Hungarian Biological Station inside and aquarium in 1908 [7].

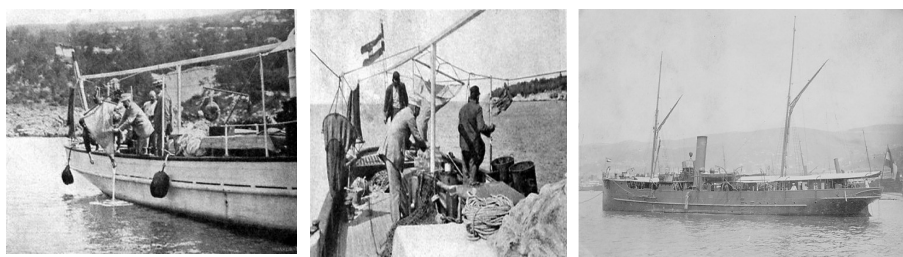


Figure 2: Klotild [9].

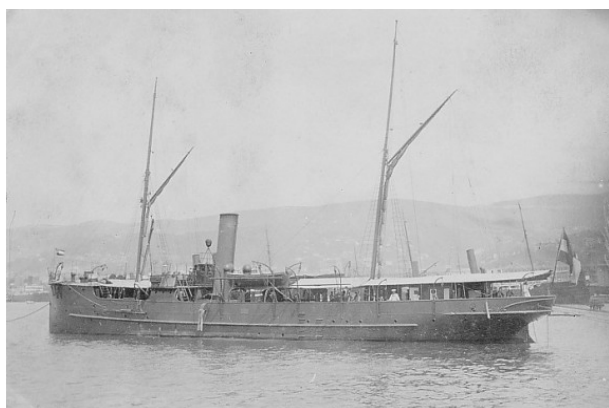


Figure 3: SMS Najade [11].

the easiest way was to organize a Hungarian one. In 1910 was formed the “Hungarian Adria Association”, then inside the “Marine Research Committee” led by Béla Gonda, ministerial counsellor. The question was solved, our Navy let the “Najade” use for the Hungarian Association, either all of the Hungarian scientific institutions or the Austrian Adria-Verein begun to help in equipping, and running of the expeditions. In 1913-14 there were two Hungarian oceanographic expeditions on the Adriatic with great results [11]. From the Hungarian side the expeditions were led by Gyula Leidenfrost [12]. Among others, and in the work of course, the son of the first Hungarian oceanographer, Geza Entz Jun. Most of the affected species can be found in [7]. During the war, Gast Reinhard, from the Institute was signed on as a fishing biologist [7].

### Newly Found Crustacea in the Adria Region

During the “Najad” expeditions, in 1912 they found new Crustacea species at the deeper parts of the Adriatic, especially in the Pelagosa-

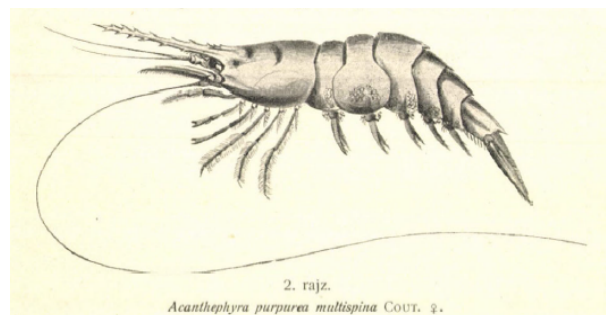


Figure 4: The first known species of this group was the *Acantheephyra purpurea* (A. Milne Edwards, 1881) [7].

Gravosa region. The new species belongs to the Eucyphidea group, and Hoplophoridae family, named *Acantheephyra purpurea multispina* Cout. In 1914, they managed to collect big, carmine coloured variations, by using Petersen offspring trawl (Figure 4) [7].

The first known species of this group was the *Acantheephyra purpurea* (A. Milne Edwards, 1881).

### Epilog and New Way

Losing the seaside, after the WW I, the institute’s fish farming, and oyster colonies were disappeared. It was a more than sad story, when after moving the usable instruments from Rijeka to Rovinj, the new Italian rulers physically liquidated the Hungarian institute’s aquariums by hammers, and the former director just was present on these actions. Anyway, the house was rebuilt to mariners barrack [12,13].

The Hungarian oceanography lost his direct contact with the sea, but the work continued, all scientific participants of the sea researches remained the esteemed members of the Hungarian scientific life.

## References

1. Bernardi W (1996) Giuseppe Olivi, Zoologia Adriatica, a cura di C. Gibin, ristampa anastatica dell'edizione del 1792. Nuncius 11: 381-384.
2. Lorenz JR (1863) Physicalische Verhältnisse und Vertheilung der Organismen im Quarnerischen Golfe. Wien, p: 379.
3. Entz G (1884) Über Infusorien des Golfes von Neapel. Mitteilungen aus der Zoologischen Station zu Neapel 5: 289-444.
4. Entz G (1902) A Quarnero Peridineái. Növénytani Közlemények 3: 83-96.
5. Entz G (1904) A Quarnero Tintinnidái. Állattani Közlemények p: 284.
6. Dean B (1893) Notes on marine biological laboratories of Europe. Am Nat 27: 697-707.
7. Soós L, Méhely L (1915) Állattani Közlemények 14. Budapest p: 298.
8. <http://budapest.varosom.hu/latnivalok/termeszet/>
9. <http://www.hajoregiszter.hu/hajoadatlap/klotild/2062>
10. <http://www.kuk-kirogsmarine.it/havi/navi-appoggio/najade/scheda-nave-de.html>
11. Alfred M, Eduard B (1912-15) Beobachtungen auf den Terminfahrten S.M.S. "Najade". Redigiert von Ed. Brückner 1893. Wien: Adolf Holzhausen.
12. Brehm A (1929) Az állatok világa. A halak szervezete és életmódja, Budapest.
13. Leidenfrost G (1914) Az első magyar Adria expedíció. A tenger" 4. köt p: 71.